

AMENDMENTS TO THE DRAWINGS

Please amend this application to include new FIGURES 18-20, which are filed with this paper.

REMARKS

Favorable reconsideration of this application, as amended and in light of the following discussion, is respectfully requested. In the Office Action, the Office made final the Restriction Requirement dated July 29, 2005, despite of Applicants' traversal dated August 29, 2005. As such, claims 1-68 and 113-114 are now under consideration in this application and claims 104-111 stand withdrawn. No claims have been amended herein. Applicants below present arguments concerning the patentability of all the pending claims.

Objections to the Specification and New Figures 18-20

The Examiner objected to the specification for containing embedded figures and stated that each figure must be a separate drawing with its own figure number and description in the Brief Description of the Drawings. See Office Action at page 2. In order to overcome this objection, Graphs 1-3 have been deleted from the body of the specification and renumbered as new Figures 18-20. Accordingly, the Brief Description of the Drawings has been amended to include a description for each of the new drawings. Paragraphs [0042], [0043], and [0067] to [0069] have also been amended to reflect the deletion of Graphs 1-3 and the addition of the Figures 18-20. No new matter has been added by those amendments as Figures 18-20 were originally and entirely presented in the specification as Graphs 1-3. Accordingly, Applicants respectfully request that the amendments be entered and that the objection be withdrawn.

Rejections Under 35 U.S.C. § 103

The Office rejected claims 1-4, 7-9, 15, 26-27, 30-32, 38, 48, 52, 55-57, and 63 under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 3,940,529 to Hepford et al. in view of U.S. Patent No. RE 27,453 to Schutte et al. See Office Action at page 3. The Office states that Hepford et al. discloses a perforate embossing system with embossing elements that can be arranged in the cross-machine direction, and that Hepford et al. relies in part on Schutte et al. to show that the perforating embossing elements can be arranged in the cross-machine direction. See *id.* at pages 3-4. More specifically, the Office asserts that the figures in Schutte et al. clearly show at least 50% of the embossing elements oriented in the cross-machine direction; therefore, it would have been obvious to the skilled artisan to arrange at least some of the embossing elements of Hepford et al. in the cross-machine direction. See *id.* at page 4. The Office further asserts that, because Hepford et al. shows all of the embossing elements oriented in one direction, it would have been obvious to the skilled artisan to arrange each of the embossing elements in the cross-direction. See *id.* Applicants respectfully disagree and traverse the Office's rejection.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must have been some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, for the skilled artisan to have modified the reference or to combine references' teachings. Second, the skilled artisan must have had a reasonable expectation of success in making the proposed modification or combination. Finally, the prior art reference or references must teach or suggest all of the claim limitations. See MPEP § 2143.

With those criteria in mind, Applicants assert that the skilled artisan would not have been motivated to combine the teachings of Hepford et al. and Schutte et al. to achieve the claimed invention comprising at least a portion of perforate nips substantially oriented in the cross-machine direction. Hepford et al. discloses embossing elements arranged only in the machine direction. Applicants call the Office's attention to Figure 3 and the following disclosure in Hepford et al. discussing that figure:

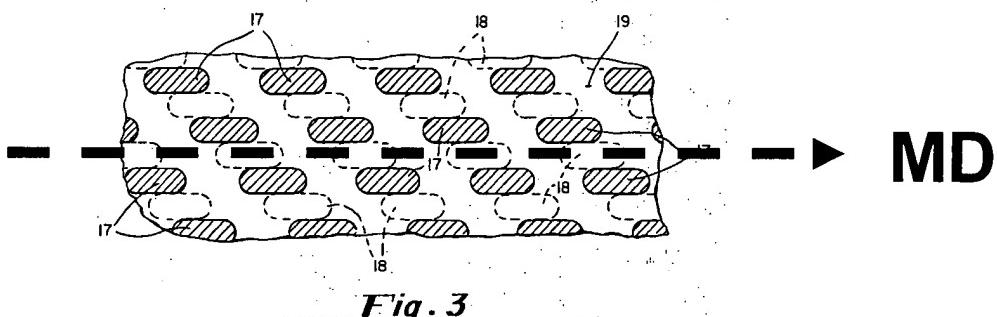


Fig. 3

FIG. 3 illustrates knuckles 17 of upper embossing roll 11 overlapping in the machine direction (direction of roll rotation) knuckles 18 of lower embossing roll 12. The mechanical working of the webs 15 and 16 which causes welding of the webs to each other and creates perforations in the webs, if desired, is confined to the areas of overlap of the knuckles 17 and 18. Thus, the amount of overlap offers one control on the size of the perforations, with greater overlap producing longer perforations in the machine direction. By making the perforations longer in the machine direction than they are in the cross-machine direction, the product has a greater increase in stretch and flexibility in the cross-machine direction than in the machine direction.

Col. 4, line 65 to col. 5, line 9 (emphasis and figure annotations added). Figure 3 and its explanatory passage show that Hepford et al. contemplates and is directed toward perforations aligned only in the machine direction, so that the resulting product has the noted qualities in the cross-machine direction.

The reference further discloses the advantages of aligning perforations in machine direction in order to increase flexibility, softness and extensibility of the web in the cross-machine direction:

Perforating the webs increases flexibility or softness of the web and also increases extensibility of the web, an advantage which is particularly useful when it is in the cross-machine direction of the web. U.S. Pat. No. Re 27,453, which is hereby incorporated by reference into the specification, discloses advantages of perforating the web in this manner.

Col. 4, lines 32-39. A proper reading of that passage indicates that Hepford et al. relies upon Schutte et al. only to show the advantages of increased flexibility, softness, and extensibility in the cross-machine direction, not any advantage of perforations in the cross-machine direction. As such, in order to increase web extensibility in the cross-machine direction as taught by Hepford et al., the embossments and resulting web perforations would have to be arranged in the machine direction, as shown in Figure 3.

As for Schutte et al., the Office asserts the reference's figures disclose that "at least 50% of the embossing elements are oriented in the cross-machine direction." See Office Action at page 4. However, regardless of what its figures may show,¹ the specification of Schutte et al. does not provide support for cross-machine direction perforations and, in fact, expressly teaches away from such an interpretation. The reference describes itself as providing, "for the first time, a clean, economical and safe

¹ Applicants submit that the Office cannot properly rely on those figures to show "at least 50%" of the elements in a cross-machine direction. The Court of Customs and Patent Appeals has held that "[a]bsent any written description in the specification of quantitative values, arguments based on measurement of a drawing are of little value." *In re Wright*, 569 F.2d 1124, 1127 (C.C.P.A. 1977). MPEP § 2125 draws upon that holding and properly prohibits any reliance upon drawings and pictures unless "they clearly show the structure which is claimed." As the figures do not indicate a machine or cross-direction, lack dimensions, and are clearly not drawn to scale, they cannot be properly relied upon as clearly showing 50% of embossing elements oriented in the cross-machine direction. Moreover, as Applicants describe, the specification is entirely inconsistent with the Office's interpretation of the drawings.

disposable industrial wiper . . . [that] is strong in both [the] machine direction and cross-machine direction." Col. 2, lines 10-14. As such, the reference states a clear preference for embossments that extend in the machine direction so that "the cross-machine stretch of the paper is increased and a highly desirable structure having two-way stretch is produced." Col. 5, lines 25-27. Schutte et al. acknowledges that such a structure may have a "somewhat reduced" cross-machine tensile strength, but clearly teaches that such a small decrease is preferable to the much larger decrease in cross-machine stretch experienced with cross-machine direction embossments. See col. 5, lines 27-31. Therefore, in an effort to achieve its goal of a paper product with both two-way strength and two-way stretch, Schutte et al. clearly teaches against the use of cross-machine direction embossments. The reference clearly teaches away from the modification and combination suggested by the Office and, therefore, cannot form a proper *prima facie* case of obviousness. See MPEP § 2141.03(VI).

Even if Schutte et al. discloses perforations aligned in the cross-machine direction, which Applicants have clearly shown that it teaches against, the skilled artisan would not have been motivated to modify Hepford et al. to include embossments oriented in that direction, in light of the both references' strong teachings regarding the benefits of orienting elements in the machine direction. Moreover, neither reference contemplates that cross-machine direction embossments may decrease machine direction strength while also maintaining cross-machine direction strength, as may be seen with the present invention. See specification at [0071]. Accordingly, the skilled artisan would not have been motivated to modify the teachings of Hepford et al. to include cross-machine direction embossments, even in light of Schutte et al., because

doing so would be entirely inconsistent with their specifications (see MPEP § 2125) and would not have provided any reasonable expectation of the exemplary attributes of cross-machine direction embossments discussed in the specification of this application.

With that understanding of the references in mind, the Office's position that the cited references "can be modified to include cross-machine direction perforations" cannot result in the obviousness of the pending claims unless the prior art also suggests the desirability of the combination. See MPEP § 2143.01 (citing *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990)). As Applicants have shown, the references do not show the desirability of such an arrangement and, in fact, teach away from the very modification that it crucial to the Office's position. Accordingly, the Office's assertion that it would have been obvious to align embossing elements in the cross-machine direction clearly reflects the use of impermissible hindsight. See MPEP § 2142. Moreover, the Office has provided no showing that the skilled artisan would have had any reasonable expectation of success in achieving the claimed invention that, for example, may improve the flexibility, bulk, and absorbency of paper. See specification at [001].

Contrary to the Office's assertions, Applicants have shown that the skilled artisan would not have been motivated to modify and combine the cited references in an effort to achieve the claimed invention, in particular since both references teach away from the claimed orientation of perforate nips in the cross-machine direction. For at least the reasons discussed above, therefore, the references cannot form a *prima facie* case of obviousness and Applicants respectfully request the withdrawal of this rejection.

The Office rejected claims 5-6, 10-14, 16-25, 28-29, 33-37, 39-47, 49-51, 53-54, 58-62, 64-68, and 113-114 under 35 U.S.C. § 103(a) as obvious over Hepford et al. in

view of Schutte et al. and further in view of U.S. Patent No. 4,759,967 to Bauernfeind. See Office Action at page 4. The Office states that Bauernfeind teaches that it is desirable to have substantially all of the embossing elements oriented in the cross-machine direction. *See id.* at page 5. The Office admits that neither Hepford et al. nor Schutte et al. disclose the claimed shapes, heights, sidewall angles, and engagement lengths of the embossing elements, but states that Bauernfeind expressly teaches those limitations or that those limitations would have been obvious to the skilled artisan depending on the web being embossed. *See id.* Applicants respectfully traverse the Office's position for at least the following reasons.

Bauernfeind does not teach perforate embossing, but rather teaches bonding "either mechanically or with adhesive, to maintain the integrity of the sheets through the embossing process." Col. 2, lines 62-64. Bauernfeind further states that is "an object of process not to damage the sheet by punching the embossing elements through the sheet which, if it occurred, would provide some degree of ply attachment in and of itself." Col. 2, line 66 to col. 3, line 2. Accordingly, Bauernfeind contains no teaching or suggestion that the skilled artisan would find applicable to the claimed perforate embossing system, revealing a lack of motivation to combine that reference with the other cited references in an effort to achieve the claimed invention.

Even if the skilled artisan would have been motivated to make the Office's proposed combination, Applicants submit that Bauernfeind fails to remedy the above-mentioned deficiencies of Hepford et al. and Schutte et al. For example, even if Bauernfeind discloses a sheet with embossments that are substantially aligned in the cross-machine direction, Hepford et al. teaches aligning embossments in the machine

direction to increase cross-machine direction stretch, which would teach away from using the cross-machine direction alignment taught by Bauernfeind. Thus, the skilled artisan would not have been motivated to combine the references. In fact, modifying the sheet disclosed in Hepford et al. to have embossments aligned in the cross-machine direction would decrease cross-machine direction stretch, rendering the Hepford et al. sheet unsatisfactory for its intended purpose and providing further evidence of nonobviousness. See MPEP § 2143.01.

Moreover, Applicants assert that Bauernfeind does not disclose the shapes and heights recited by the claims. For example, Bauernfeind does not teach or suggest the claimed sidewall angles recited in claims 20-23, 43-45 and 49-51, the hexagonal shape of claim 5, or a height of at least 60 mils as recited by claim 13. As none of the cited references disclose the recited shapes and sizes, there can be no *prima facie* case of obviousness. For at least each of the reasons stated above, Bauernfeind cannot, either alone or in combination with any other references of record, form the basis for a *prima facie* case of obviousness for any of the pending claims.

The Office separately rejected dependent claim 113 under 35 U.S.C. § 103(a) as obvious over Hepford et al. in view of Schutte et al. and further in view of U.S. Patent No. 5,458,950 to Bredenick et al. See Office Action at page 5. The Office states that Bredenick et al. teaches two portions of embossing elements having different heights of at least 15 mils to create a balance between web strength and web absorbency, and that it would have been obvious to modify the web of Hepford et al. to have the different embossing element heights for the same reasons. See *id.* Applicants assert that Bredenick et al. fails to remedy the above-identified deficiencies of Hepford et al. and

Schutte et al. As shown by at least Figure 4, the embossments of Bredenick are aligned in the machine direction. Regardless of what Bredenick may teach regarding embossing element heights, the reference does not teach or suggest the claimed invention and, in fact, actually teaches away from it. As such, Applicants assert that Bredenick, either alone or in combination with the other cited references, cannot render claim 113 obvious and respectfully request the withdrawal of this rejection.

Conclusion

Applicants have addressed the objection to the specification as well as provided arguments over the rejections under 35 U.S.C. § 103(a). Accordingly, Applicants assert that all of the pending claims are neither anticipated nor rendered obvious by any of the references of record. In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and the continued examination of this application and the timely allowance of the pending claims. Should the Office have any questions regarding this paper, or wish to discuss this application, Applicants invite the Office to contact the undersigned representative.

Respectfully submitted,

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